Montana Behavioral
Risk Factor Surveillance System

BRFSS

Alcohol Use and Alcohol Screening & Brief Intervention

November 2015

Introduction

Based on the results of the 2014 Behavioral Risk Factor Surveillance System (BRFSS), alcohol use, heavy drinking, and binge drinking prevalence are significantly higher in Montana than the rest of the United States.[1] In Montana, binge drinking is significantly associated with a higher prevalence of poor health, depression, an inactive lifestyle, cardiovascular disease, and diabetes.[2] Alcohol screening and brief intervention (ASBI) is recommended by the U.S. Preventive Services Task Force (USPTF) for all adults in primary care settings to identify individuals who engage in risky or hazardous drinking behaviors and offer counseling.[3] The USPTF has found that patients who receive brief counseling are more likely to reduce their alcohol use. In 2014, the Montana BRFSS included a module to determine the use of ASBI in primary care settings.

Methods

The BRFSS is a landline and cell phone telephone survey that assesses health status and behavioral risk factors of residents 18 years of age and older in Montana. All survey respondents were asked questions regarding their alcohol use, including frequency and average number of drinks per drinking occasion. These questions were used to calculate heavy drinking (more than two drinks per day for men and more than one drink per day for women) and binge drinking (five or more drinks on one occasion for men and four or more drinks on one occasion for women.) The ASBI module includes five questions to determine whether respondents were asked about their alcohol use and drinking habits at their last routine checkup. Only respondents who reported having a checkup within the past two years were asked the ASBI module. Significance testing was done using Chi square tests for dichotomous groups (sex, race/ethnicity, disability) and tests for trend for ordinal groups (age, education, income). The results are considered statistically significant if the p value is less than 0.01. P values that are not significant are reported as such, represented by NS (not significant).

Results

In Montana, 59.6% of respondents reported having at least one drink of alcohol in the past 30 days, 7.4% reported heavy drinking, and 18.9% reported binge drinking. Alcohol use and binge drinking were significantly higher among men, younger adults, and those less educated (Table 1). Alcohol use increased as income levels increased. Non-Hispanic White respondents reported alcohol use and heavy drinking more often than non-Hispanic American Indian/Alaska Native (AI/AN) respondents. Respondents with a disability reported alcohol use, heavy drinking, and binge drinking less often than respondents without a disability.

Of the 7,502 total respondents, 6,087 reported having a routine checkup within the past two years (Table 2). The demographics of respondents who reported having a routine checkup within the past two years varied significantly by sex, age, income, and disability status. Binge drinkers reported having a recent checkup less often than non-binge drinkers.

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Of the respondents who had a routine checkup within the past two years, 78.3% reported being asked in person or on a form if they drank alcohol, 69.6% of respondents were asked how much they drank, and 21.0% of respondents were offered advice about what level of drinking is harmful or risky in terms of their health (Table 3). Men reported being offered advice more often than women. For all three questions, there was a significant decrease in the percent asked as the respondent's age increased. As education and income levels increased, so did the prevalence of ever being asked about alcohol use and amount drank; however the prevalence of ever being offered advice decreased. AI/AN respondents reported being offered advice more often than non-Hispanic Whites. Alcohol users reported being asked about alcohol use and how much they drank more often than non-drinkers; however there was no significant difference in the number who reported receiving advice about their drinking. Heavy drinkers reported being asked how much they drank and being offered advice more often than non-heavy drinkers. Binge drinkers reported being asked all three questions more often than non-binge drinkers.

Conclusion

A limitation of all surveys is that they are subject to recall bias. During a BRFSS interview if a respondent states they do not know the answer to a question the interviewer records the response as "Don't know/Not sure" (DK/NS). Respondents are also able to refuse to answer a question and the response is recorded as "Refused." Because the ASBI module required respondents to remember an event that happened over a time period of two years, the module results showed a greater recall bias than what is typical for BRFSS responses. These responses are removed from all analyses, however they are worth noting. For the following questions, were you asked if you drank alcohol, were you asked how much you drank, and were you offered advice about the health risks of alcohol use, the percent of respondents who answered DK/NS were 8.5%, 9.0%, and 5.5%. In comparison, when respondents were asked if they drank any alcohol and the number of drinks they drank on average over the past 30 days, the percent of respondents who answered DK/NS were 1.0% and 1.1%.

ASBI can be an effective tool in a primary care setting, but 25.6% of heavy drinkers and 30.1% of binge drinkers did not report having a routine checkup in the past two years. Of those who had a routine checkup within the past two years, a significant number were asked by their healthcare provider about their alcohol use. This indicates that most healthcare providers are starting conversations about alcohol use, but we do not know if they are using formal ASBI tools.

Of respondents who reported any alcohol use, 29.2% of respondents who were asked how much they drank were offered advice on the health risks of alcohol use, which closely matches the 27.4% of the population who report heavy or binge drinking behaviors. However, amongst both heavy drinkers and binge drinkers, only 44% who reported being asked how much they drank were then offered advice about the health risks of alcohol. This could either be because respondents are being truthful when answering BRFSS survey questions and not to their healthcare providers about their alcohol use, or healthcare providers are not taking their time to advise patients on the risks. Based on the research of the positive effects of using formal ASBI tool kits, more healthcare providers in Montana should be using these programs to address risks of excessive alcohol use with their patients.[3]

[1] Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2015].

[2] Montana Behavioral Risk Factor Surveillance System Office. Helena, MT: Montana Department of Public Health and Human Services (DPHHS), Public Health and Safety Division, [2015].

[3] Moyer, V. on behalf of the U.S. Preventive Services Task Force. Screening and Behavioral Counseling Interventions in Primary Care to Reduce Alcohol Misuse: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med. 2013; 159: 210-218.

Table 1: Alcohol Related Risk Behaviors																
	Any Alcohol Use Past 30 Days						Heavy Drinking in Past 30 Days						Binge Drinking in Past 30 Days				
	Wt. %	95% CI		UnWt. N	P Value		Wt. %	95% CI		UnWt. N	P Value		Wt. %	95% CI		UnWt. N	P Value
		LL	UL					LL	UL					LL	UL		
All Adults	**59.6**	57.9	61.2	3,920			**7.4**	6.6	8.4	467			**18.9**	17.5	20.4	957	
Sex:																	
Male	**65.0**	62.7	67.4	1,970	**<.0001**		**8.1**	6.9	9.6	229	NS		**25.3**	23.1	27.7	602	**<.0001**
Female	**54.1**	51.8	56.4	1,950			**6.8**	5.6	8.1	238			**12.5**	10.9	14.3	355	
Age:																	
18 - 24	**55.7**	49.4	62.0	181	**<.0001**		**5.7**	3.4	9.4	18	NS		**32.2**	26.5	38.5	100	**<.0001**
25 - 34	**70.5**	66.2	75.0	402			**10.2**	7.4	14.0	50			**29.2**	24.7	34.1	162	
35 - 44	**67.8**	63.1	72.4	458			**7.0**	4.9	9.9	45			**25.6**	21.5	30.2	158	
45 - 54	**60.6**	56.7	64.6	650			**8.4**	6.5	10.7	96			**18.7**	15.9	22.0	204	
55 - 64	**59.2**	56.0	62.4	977			**8.3**	6.6	10.4	128			**12.8**	10.7	15.2	194	
65+	**47.9**	45.2	50.5	1,223			**5.3**	4.3	6.6	128			**5.1**	4.1	6.3	137	
Education:																	
<High School	**39.7**	33.1	46.4	163	**<.0001**		**4.7**	2.7	8.1	24	NS		**9.8**	6.3	15.0	38	**0.001**
High School	**53.2**	50.1	56.2	998			**8.0**	6.4	10.0	148			**20.2**	17.5	23.1	306	
Some College	**60.7**	57.8	63.7	1,137			**7.1**	5.6	8.9	128			**20.3**	17.8	23.1	292	
College Degree +	**71.9**	69.4	74.3	1,619			**8.2**	6.8	10.0	167			**18.6**	16.3	21.1	320	
Income:																	
<$15,000	**40.9**	35.0	46.7	254	**<.0001**		**9.6**	6.3	14.3	44	NS		**19.2**	14.6	24.8	94	NS
$15,000 - $24,999	**49.7**	45.4	54.1	545			**6.7**	4.9	9.2	71			**18.2**	14.8	22.2	147	
$25,000 - $49,999	**58.5**	55.2	61.8	939			**6.8**	5.3	8.8	109			**17.1**	14.5	20.1	210	
$50,000 - $74,999	**68.2**	64.3	72.2	661			**8.8**	6.6	11.6	80			**20.0**	16.5	24.0	162	
$75,000 +	**76.5**	73.5	79.4	1,098			**9.2**	7.4	11.3	133			**24.7**	21.6	28.1	272	
Race/Ethnicity:																	
White, non-Hispanic	**61.3**	59.6	63.1	3,514	**<.0001**		**7.9**	6.9	9.0	422	**0.003**		**18.8**	17.3	20.3	816	NS
AI/AN*	**38.9**	32.1	45.7	190			**3.7**	2.3	6.1	26			**19.1**	13.8	26.0	84	
Disability:																	
Disability	**46.2**	43.1	49.3	943	**<.0001**		**4.8**	3.8	6.1	108	**<.0001**		**11.4**	9.4	13.8	195	**<.0001**
No Disability	**64.0**	62.0	65.9	2,960			**8.2**	7.1	9.4	356			**21.3**	19.6	23.2	758	
* American Indian or Alaska Native only.																	
NS Not significant.																	

Table 2: Routine Checkup					
	Routine Checkup Within Past 2 Years				
	Wt. %	95% CI		UnWt. N	P Value
		LL	UL		
All Adults:	**78.3**	76.8	79.7	6,087	
Sex:					
Male	**73.7**	71.4	75.9	2,569	**<.0001**
Female	**82.9**	81.0	84.7	3,518	
Age:					
18 - 24	**71.8**	66.1	77.6	242	**<.0001**
25 - 34	**67.9**	63.1	72.6	431	
35 - 44	**74.1**	70.0	78.3	520	
45 - 54	**73.3**	70.0	77.0	827	
55 - 64	**82.5**	80.1	85.0	1,465	
65+	**92.2**	90.8	93.6	2,540	
Education:					
<High School	**78.4**	73.0	83.9	389	NS
High School	**74.7**	71.8	77.5	1,763	
Some College	**79.4**	76.8	81.9	1,796	
College Degree +	**81.3**	78.9	83.6	2,117	
Income:					
<$15,000	**75.4**	70.1	80.6	556	**0.004**
$15,000 - $24,999	**72.2**	68.2	76.2	1,027	
$25,000 - $49,999	**79.1**	76.3	81.9	1,519	
$50,000 - $74,999	**77.6**	73.7	81.5	833	
$75,000 +	**82.3**	79.5	85.1	1,259	
Race/Ethnicity:					
White, non-Hispanic	**78.6**	77.0	80.1	5,217	NS
AI/AN*	**76.0**	69.6	82.5	512	
Disability:					
Disability	**84.0**	81.4	86.5	1,915	**<.0001**
No Disability	**76.6**	74.8	78.3	4,039	
Any Alcohol Use:					
Yes	**77.9**	76.0	79.9	3,163	NS
No	**78.8**	76.5	81.1	2,708	
Heavy Drinking:					
Yes	**74.4**	68.9	80.0	351	NS
No	**78.6**	77.0	80.1	5,467	
Binge Drinking:					
Yes	**69.9**	65.8	73.9	696	**<.0001**
No	**80.2**	78.6	81.8	5,120	
* American Indian or Alaska Native only.					
NS Not significant.					

Table 3: Alcohol Screening and Brief Intervention (ASBI)																	
	Asked About Alcohol Use						Asked How Much You Drink						Offered Advice on Health Risks				
	Wt.%	95% CI		UnWt. N	P Value		Wt.%	95% CI		UnWt. N	P Value		Wt.%	95% CI		UnWt. N	P Value
		LL	UL					LL	UL					LL	UL		
All Adults	**78.3**	76.6	79.9	3,872			**69.6**	67.8	71.4	3,318			**21.0**	19.4	22.7	987	
Sex:																	
Male	**78.4**	76.0	80.8	1,652	NS		**69.4**	66.7	72.1	1,444	NS		**25.6**	22.9	28.2	529	**<.0001**
Female	**78.2**	75.9	80.5	2,220			**69.8**	67.4	72.2	1,874			**17.2**	15.0	19.4	458	
Age:																	
18 - 24	**74.2**	67.0	81.3	149	**0.005**		**62.9**	54.9	71.0	127	**0.003**		**31.6**	23.8	39.4	68	**<.0001**
25 - 34	**86.8**	81.8	91.8	311			**81.3**	76.2	86.4	279			**27.7**	21.3	34.0	85	
35 - 44	**86.8**	82.8	90.9	383			**81.5**	76.8	86.1	350			**21.6**	16.5	26.6	94	
45 - 54	**82.8**	78.8	86.8	602			**74.7**	70.6	78.8	518			**19.7**	16.1	23.3	147	
55 - 64	**80.6**	77.5	83.7	1,026			**71.8**	68.7	75.3	885			**18.7**	15.9	21.4	250	
65+	**66.5**	63.7	69.4	1,370			**55.6**	52.7	58.6	1,130			**16.2**	14.0	18.5	339	
Education:																	
<High School	**64.6**	86.7	72.5	216	**<.0001**		**59.4**	51.7	67.1	186	**<.0001**		**33.1**	25.1	41.1	92	**<.0001**
High School	**74.9**	71.8	78.1	1,049			**64.6**	61.2	68.1	860			**22.0**	18.8	25.2	300	
Some College	**81.0**	78.2	83.7	1,183			**71.9**	68.8	75.1	1,019			**19.7**	16.9	22.5	292	
College Degree +	**83.1**	80.8	85.3	1,417			**75.3**	72.6	77.9	1,248			**17.7**	15.2	20.2	301	
Income:																	
<$15,000	**72.0**	65.4	78.5	336	**<.0001**		**64.9**	58.4	71.4	289	**0.001**		**27.8**	21.6	34.0	128	**<.0001**
$15,000 - $24,999	**75.7**	**71.6**	79.8	616			**65.4**	60.6	70.1	522			**26.5**	21.6	31.5	199	
$25,000 - $49,999	**78.4**	**74.9**	81.8	985			**71.2**	67.7	74.7	856			**23.5**	19.8	27.1	254	
$50,000 - $74,999	**81.3**	**77.3**	85.3	573			**71.8**	67.2	76.4	496			**18.6**	14.8	22.5	130	
$75,000 +	**85.3**	**82.5**	88.1	908			**75.7**	72.2	79.1	790			**16.2**	13.4	19.1	182	
Race/Ethnicity:																	
White, non-Hispanic	**78.0**	**76.2**	79.8	3,282	NS		**69.4**	67.5	71.3	2,829	NS		**20.0**	18.3	21.8	781	**<.0001**
AI/AN*	**82.3**	**77.4**	87.2	367			**67.3**	60.2	74.3	282			**34.9**	27.5	42.3	144	
Disability:																	
Disability	**77.3**	**74.4**	80.2	1,229	NS		**68.8**	65.7	71.9	1,049	NS		**20.8**	17.8	23.8	330	NS
No Disability	**78.6**	**76.6**	80.6	2,628			**69.9**	67.7	72.0	2,257			**21.2**	19.1	23.2	655	
Any Alcohol Use:																	
Yes	**82.0**	**79.9**	84.1	2,217	**<.0001**		**74.9**	72.5	77.2	2,007	**<.0001**		**22.4**	20.2	24.7	601	NS
No	**73.1**	**70.4**	75.2	1,616			**62.3**	59.4	65.1	1,278			**19.1**	16.4	21.7	375	
Heavy Drinking:																	
Yes	**84.8**	**78.6**	90.9	277	NS		**78.6**	71.7	85.6	252	**0.02**		**35.6**	28.2	42.9	109	**<.0001**
No	**78.1**	**76.3**	79.8	3,530			**69.2**	67.4	71.1	3,013			**19.9**	18.2	21.7	857	
Binge Drinking:																	
Yes	**83.5**	**79.4**	87.7	520	**0.01**		**77.1**	72.3	81.9	474	**0.002**		**36.1**	30.7	41.5	221	**<.0001**
No	**77.4**	**75.6**	79.2	3,283			**68.2**	66.3	70.2	2,785			**18.0**	16.8	19.7	744	
* American Indian or Alaska Native only.																	
NS Not significant.																	

Background: The Montana Behavioral Risk Factor Surveillance System (BRFSS) has been collecting state-specific, population-based estimates of health-related data since 1984. The purpose of this statewide telephone survey of Montana residents aged 18 and older is to gather information regarding personal health risk behaviors, selected medical conditions, and the prevalence of preventive health care practices among Montana adults. A full set of Montana yearly questionnaires and health indicators can be found on the Department of Public Health and Human Services (DPHHS) BRFSS database query system website at www.dphhs.mt.gov/publichealth/brfss**.**

Survey Limitations: The BRFSS relies on self-reported data. This type of survey has certain limitations: many times, respondents have the tendency to underreport some behaviors that may be considered socially unacceptable (e.g., smoking, heavy alcohol use); conversely, respondents may over report behaviors that are desirable (e.g., physical activity, nutrition). Cross-sectional design makes causal conclusions impossible. In addition, the sample sizes used to calculate the estimates in this report vary as respondents who indicated, "don't know," "not sure," or "refused" were excluded from most of the calculation of prevalence estimates.

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